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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,302

01/31/2005

Jonathan Hughes

IA/3-22333/PCT

7938

324 7590 03/18/2008

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EXAMINER

HRUSKOCI, PETER A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,302	<b>Applicant(s)</b> HUGHES, JONATHAN	
	<b>Examiner</b> Peter A. Hruskoci	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/29/05</u>   | 6) <input type="checkbox"/> Other: _____                          |

The disclosure is objected to because of the following informalities: On page 2 “aNational” is erroneous. The specification should include a “BRIEF DESCRIPTION OF THE DRAWINGS”.

Appropriate correction is required.

Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 “the solid by-product”, in claim 19 “the solid-by product”, and in claim 22 “the fermentation compound” lack clear antecedent basis. In claim 19 “analogous materials” is vague and indefinite because it is unclear how this term further limits the claim. Claims 2-18, 20, and 21 depend from the above claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brink 5,536,325 in view of the NREL report Wooley et al. and RU 2077594 Vyglazov et al. Brink disclose (see col. 5 line 38 through col. 6 line 60 and col. 9 line 11 through col. 11 line 34) a process for producing a fermentation product substantially as claimed. The claims differ from Brink by reciting specific steps for contacting a second polysaccharide with an enzyme, and for employing a specific flocculating agent. Wooley et al. disclose (see page 2 of the instant

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specification) that it is known in the art to utilize the recited contacting step to aid in producing ethanol from lignocellulose biomass. Vyglazov et al. disclose (see Abstract) that it is known in the art to utilize polymer flocculants, to aid in separating suspended particles from an acid hydrolysate of vegetable material. It would have been obvious to one skilled in the art to modify the process of Brink by utilizing the recited contacting and employing steps in view of the teachings of Wooley et al. and Vyglazov et al., to aid in producing ethanol and separating the solid residue. The specific pH, concentration, temperature, and time period utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific plant derived material hydrolyzed and results desired, absent a sufficient showing of unexpected results.

Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brink as in view of Wooley et al. and Vyglazov et al. as above, and further in view of Moffett 6,132,625. The claims differ from the references as applied above, by reciting that the flocculating agent includes charged microparticulate material and specific polymers. Moffett disclose (see col. 3 line 3 through col. 6 line 39) that it is known in the art to add a flocculating agents including anionic microgels and polymers, to aid in flocculating biosolids present in aqueous streams including sugars and carbohydrates. It would have been obvious to one skilled in the art to modify the references as applied above, by addition of the recited microparticulate material and polymers in view of the teachings of Moffett, to aid in separating the solid residue. The specific introducing and reflocculating sequence utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific plant derived material hydrolyzed and results desired, absent a sufficient showing of unexpected results.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brink as in view of Wooley et al. and Vyglazov et al. as above, and further in view of Tedder 5,215,902. The claim differs from the references as applied above, by reciting that the fermentation product is collected and extracted by a specific means. Tedder disclose (see col. 1 lines 39-66) that it is known in the art to utilize solvent extraction, to aid in separating alcohols from fermentation broth. It would have been obvious to one skilled in the art to modify the references as applied above, by utilizing solvent extraction in view of the teachings of Tedder, to aid in further separating the fermentation product.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (571) 272-1160. The examiner can normally be reached on Monday through Friday from 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter A. Hruskoci/  
Primary Examiner  
Art Unit 1797

3/12/08